

Notice of Allowability	Application No.	Applicant(s)	
	10/735,000	DEN ET AL.	
	Examiner	Art Unit	
	William T. Leader	1742	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☐ This communication is responsive to _____.
2. ☒ The allowed claim(s) is/are 13-19.
3. ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 - a) ☒ All b) ☐ Some* c) ☐ None of the:
 1. ☒ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).
 - * Certified copies not received: _____.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.

THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.

4. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
5. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
 - (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
 - 1) ☐ hereto or 2) ☐ to Paper No./Mail Date _____.
 - (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date _____.

Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
6. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)

- | | |
|---|--|
| 1. <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 5. <input type="checkbox"/> Notice of Informal Patent Application |
| 2. <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 6. <input type="checkbox"/> Interview Summary (PTO-413),
Paper No./Mail Date _____. |
| 3. <input checked="" type="checkbox"/> Information Disclosure Statements (PTO/SB/08),
Paper No./Mail Date <u>14 Oct 2004</u> | 7. <input checked="" type="checkbox"/> Examiner's Amendment/Comment |
| 4. <input type="checkbox"/> Examiner's Comment Regarding Requirement for Deposit
of Biological Material | 8. <input checked="" type="checkbox"/> Examiner's Statement of Reasons for Allowance |
| | 9. <input type="checkbox"/> Other _____. |

DETAILED ACTION

Applicant's election of Group II, claims 13-19 in the reply filed on October 12, 2006, is acknowledged. Because applicant did not distinctly and specifically point out the supposed errors in the restriction requirement, the election has been treated as an election without traverse (MPEP § 818.03(a)).

EXAMINER'S AMENDMENT

An examiner's amendment to the record appears below. Should the changes and/or additions be unacceptable to applicant, an amendment may be filed as provided by 37 CFR 1.312. To ensure consideration of such an amendment, it MUST be submitted no later than the payment of the issue fee.

Authorization for this examiner's amendment was given in a telephone interview with Stephen Meyer on December 8, 2006.

In the Claims:

Claim 13 has been rewritten as follows:

13. (amended) A method of manufacturing a fluid control device comprising:
a step of forming a layer containing ~~at least~~ aluminum as principal ingredient ~~and~~;
a step of forming a mixed film of $Al_{1-x} \cdot Si_x$ ($0.2 \leq x \leq 0.7$) including cylinders having an average diameter not greater than 10 nm and containing aluminum as principal ingredient;

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a step of forming fine pores in said layer containing aluminum as principal ingredient by anodization; and

a step of removing the cylinders containing aluminum as principal ingredient from said mixed film of $Al_{1-x} \cdot Si_x$.

Claims 1-12 and 20, directed to non-elected inventions have been canceled.

COMMENTS

These changes have been made to more clearly recite applicant's invention. In line 3 "at least" has been deleted to provide proper antecedent basis for "said layer containing aluminum as principal ingredient" in line 5. The formation of the mixed film of $Al_{1-x} \cdot Si_x$ has been recited as a separate step to conform to the description of the invention in the specification. See, for example, page 18, line 9 to page 19, line 6 which describes the step of forming the $Al_{1-x} \cdot Si_x$ mixed film 41 on aluminum base 42 as a separate process step. Claims to the non-elected inventions have been canceled.

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. The Textor et al patent (4,717,455) discloses a process for manufacturing a microfilter. The Van'T Veen et al patent (5,089,299) discloses making a composite ceramic micropermeable membrane. The Butler et al patent (5,137,634) discloses fabricating a composite membrane. The Beetz, Jr. et al patent (6,045,677) discloses manufacturing a

microporous microchannel plate. Masuda et al (6,139,713) discloses producing a porous anodized alumina film.

REASONS FOR ALLOWANCE

The following is an examiner's statement of reasons for allowance: As shown by the prior art of record, processes for forming a predominantly aluminum porous structure which is capable of serving as a fluid control device are known. However, the prior art does not teach or suggest a process in which a mixed film of AlSi of the claimed composition, which includes principally aluminum cylinders with an average diameter not greater than 10 nm, is formed on a layer with aluminum as the principal ingredient, where the layer is anodized to form fine pores and the cylinders are removed from the film.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

Any inquiry concerning this communication or earlier communications from the examiner should be directed to William T. Leader whose telephone number is 571-272-1245. The examiner can normally be reached on Mondays-Thursdays and alternate Fridays, 7:30-4:00.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Roy King, can be reached on 571-272-1244. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

WL
William Leader
December 14, 2006

R
ROY KING
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 1700